CALIBRATION STANDARD SPECIFICATION

FOR A

DEW POINT GENERATOR

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PROCUREMENT PACKAGE

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DEW POINT GENERATOR

1. SCOPE

1.1 Scope. This specification defines the mechanical, electrical, and electronic characteristics for a Dew Point Generator. This equipment intended to be used by Navy personnel in shipboard and shorebased laborator to calibrate or to assist in the calibration of dew point devices or sourc For the purposes of this specification, the Dew Point Generator shall referred to as the DPG. The DPG shall operate as a gas dilution dew poi generator.

2. APPLICABLE DOCUMENTS

2.1 Controlling Specifications. MIL-T-28800, "Military Specification, Test Equipment for use with Electrical and Electronic Equipment, Genera specification for," and all documents referenced therein of the issues effect on the date of this solicitation shall form a part of thi specification.

3. REQUIREMENTS

3.1 General. The DPG shall conform to the Type II, Class 5, Style E requirements as specified in MIL-T-28800 for Navy shipboard and shorebased as modified below. The use of material restricted for Navy use shall governed by MIL-T-28800.

3.1.1 Design and Construction. The DPG design and construction shall meet the requirements of MIL-T-28800 for Type II equipment.

3.1.2 Power requirements. The DPG shall not require electrical power.

3.1.3 Dimensions and Weight. Maximum dimensions shall not exceed 14 inches in width, 14 inches in height, and 20 inches in depth. The DPG weight sha not exceed 60 pounds.

3.1.4 Lithium Batteries. Per MIL-T-28800, lithium batteries are prohibited without prior authorization. A request for approval for the use of lithi batteries, including those encapsulated in integrated circuits, shall submitted to the procuring activity at the time of submission of proposal Approval shall apply only to the specific model proposed.

3.2 Environmental Requirements. The DPG shall meet the environmental requirements for a Type II, Class 5, Style E equipment with the deviatio specified below.

3.2.1 Temperature and Humidity. The DPG shall meet the conditions below:

	Temperature (^{o}C)	Relative Humidity (%)
Operating	10 to 30	95
	30 to 40	75
Non-operating	-40 to 70	Not Controlled

3.2.2 Electromagnetic Compatibility. The electromagnetic compatibility requirements of MIL-T-28800 are waived.

3.3 Reliability. Type II reliability requirements are as specified in MIL-T-28800.

3.3.1 Calibration Interval. The DPG shall have an 85% or greater probability of remaining within tolerances of all specifications at the end of a 12 mo period.

3.4 Maintainability. The DPG shall meet the Type II maintainability requirements as specified in MIL-T-28800 except the lowest discrete compon shall be defined as a replaceable assembly. Certification time shall n exceed 60 minutes.

3.5 Performance Requirements. The DPG shall provide the following capability as specified below. Unless otherwise indicated, all specifications shall met following a 30 minute warm-up period.

3.5.1 Flow Rate. The DPG shall provide the following flow rate requirements.

3.5.1.1 Flow Rate Output. The DPG shall output a flow rate of up to 5.0 Standard Cubic Feet per Hour (SCFH) at 100 PSIG.

3.5.1.2 Flow Rate Output Pressure. The DPG shall provide an output pressure of up to 100 PSIG.

3.5.1.3 Flow Rate Output resolution. The DPG shall have a flow rate output resolution of +/- 0.2 SCFH from 0.5 to 5.0 SCFH.

3.5.2 Dew Point. The DPG shall provide the following dew point generation capabilities.

3.5.2.1 Dew Point Generation Range. The DPG shall be able to generate dew points in the dew point range of -80 °C to +15 °C.

3.5.2.2 Dew Point Accuracy. The DPG shall generate dew points in the above range with an accuracy of +/- 0.5 °C or better.

3.6 Operating Requirements. The DPG shall provide the following capabilities.

3.6.1 Theory of Operation. The DPG shall generate humidity in a purely mechanical process.

3.6.2 Source Gas. The DPG shall operate from an external source of dry gas such as nitrogen or air.

3.7 Manual. At least two copies of an operation and maintenance manual shal be provided. The manual shall meet the requirements of MIL-M-7298.

3.7.1 Calibration Procedure. The manual shall include a calibration procedure in accordance with MIL-M-38793.